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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/583,133	05/30/2000	Lane W. Lee	M-8377 US	1855

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MACPHERSON KWOK CHEN & HEID LLP
1762 TECHNOLOGY DRIVE, SUITE 226
SAN JOSE, CA 95110

EXAMINER	
WASSUM, LUKE S	

ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/583,133	LEE ET AL.	
	Examiner	Art Unit	
	Luke S. Wassum	2177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-9,20 and 24-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-9,20 and 24-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Request for Reconsideration

1. The Applicants' request for reconsideration, filed 23 July 2004, has been received, entered into the record, and considered.

2. Claims 2-9, 20 and 24-26 remain pending in the application. Claims 1, 10-19, 21-23 and 27-35 have been previously canceled.

The Invention

3. The claimed invention is for a method of managing information on a Write-Once Read-Many (WORM) optical storage device, such that the capability to add, delete and modify the file system objects is emulated, even though information cannot be physically erased from the storage media.

Specification

4. The Applicants have incorporated by reference co-pending applications 09/583,448 and 539,841 at page 1, first paragraph. The examiner notes that incorporation by reference of an application in a printed United States Patent constitutes a special circumstance under 35 U.S.C. § 122 warranting that access of the original disclosure of the application be granted. The incorporation by reference will be interpreted as a waiver of confidentiality of only the original disclosure as filed, and not the entire application file. See *In re Gallo*, 231 USPQ 496 (Comm'r Pat. 1986).

If the Applicants object to access to the entire application file, two copies of the information incorporated by reference must be submitted along with the objection. Failure to provide the material within the period provided will result in the entire application (including prosecution) being made available to petitioner. The Office will not attempt to separate the noted materials from the remainder of the application. See *In re Marsh Engineering Co*, 1913 C.D. 183 (Comm'r Pat. 1913).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* v. *John Deere Co*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and

invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 2-9, 20 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Flannagan et al.** (U.S. Patent 4,827,462) in view of **Mikamo** (U.S. Patent 5,630,115).

9. Regarding claim 2, **Flannagan et al.** teaches a method for emulating an erasable storage medium using a non-erasable optical disk wherein the optical disk includes a writing area formed by a spiral track substantially as claimed, the method comprising:

a) writing a plurality of data files in the writing area, wherein a first data file is written from a first end of the spiral track, a second data file is written from the end of the first data file on the spiral track, and so on for remaining files (see col. 3, lines 46-52; see also col. 5, lines 53-63);

b) generating a system sector for the data files, wherein the system sector identifies for each data file its location on the writable area and its size (see col. 7, lines 50-62; see also col. 11, line 49 through col. 12, line 62, and particularly col. 12, lines 27-35); and

c) writing a system sector in the writable area wherein the system sector is written from the remaining end of the spiral track (see col. 5, lines 59-63, said directory being analogous to the claimed system sector).

Flannagan et al. additionally teaches that any additional system sectors are written from the end of the system of the sector on the spiral track (see col. 5, lines 59-63, said directory being analogous to the claimed system sector).

Flannagan et al. does not explicitly teach a method including the claimed provisions for handing changes to the data files stored on the writable area.

Mikamo, however, teaches a method including the claimed provisions for handing changes to the data files stored on the writable area, including:

a) generating an updated system sector whenever there is a change in the data files stored on the writable area, wherein the updated system sector identifies only the changed data files, the unchanged data files being identified by the system sector (see diagrams of updated system sectors in Figures 3B, 6B and 11B; see also disclosure of the creation of new records OL1.REC1...OL1.RECn at col. 3, lines 6-25, and particularly lines 14-16); and

b) writing the updated system sector in the writable area (see col. 4, lines 31-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to handle changes made to the data files stored on the writable area of a WORM as claimed, since this technique would record only the portion of the new file information that differed from the corresponding portion of the old file, and also only add system sectors for those files that have changed, thus the data record region of the record medium can be utilized optimally (see col. 1, lines 63 through col. 2, line 7).

10. Regarding claim 20, **Flannagan et al.** teaches a write-only read-many (WORM) optical disk, comprising:

a) a writable area on the optical disk wherein the writable area is formed in a spiral track, the spiral track forming a data area starting at a first end of the spiral track and extending toward the remaining end and forming a system sector starting at the remaining end and extending towards the first end (see col. 3, lines 46-52; see also col. 5, lines 53-63), wherein the data area comprises a plurality of data files and the system sector identifies the location and size of the data files (see col. 7, lines 50-62; see also col. 11, line 49 through col. 12, line 62, and particularly col. 12, lines 27-35).

Flannagan et al. additionally teaches that any additional system sectors are written from the end of the system of the sector on the spiral track (see col. 5, lines 59-63, said directory being analogous to the claimed system sector).

Flannagan et al. does not explicitly teach a WORM optical disk including the claimed provisions for handing changes to the data files stored on the writable area.

Mikamo, however, teaches a WORM optical disk including the claimed provisions for handing changes to the data files stored on the writable area, the writable area including an updated system sector for accessing only updated files (see diagrams of updated system sectors in Figures 3B, 6B and 11B; see also disclosure of the creation of new records OL1.REC1...OL1.RECn at col. 3, lines 6-25, and particularly lines 14-16), the information for accessing the data files that were not updated being stored in the system sector (see col. 4, lines 31-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to handle changes made to the data files stored on the writable area of a WORM as claimed, since this technique would record only the portion of the new file information that differed from the corresponding portion of the old file, and also only add system sectors for those files that have changed, thus the data record region of the record medium can be utilized optimally (see col. 1, lines 63 through col. 2, line 7).

11. Regarding claim 3, **Flannagan et al.** additionally teaches a method wherein the change is an additional data file being written in the writable area, the additional data file being written from the end of the last data file on the spiral track, and wherein the updated system sector identifies the location and size of the additional data file (see col. 7, lines 50-62; see also col. 11, line 49 through col. 12, line 62, and particularly col. 12, lines 27-35; see also col. 5, lines 59-63, said directory being analogous to the claimed system sector).

12. Regarding claim 4, **Mikamo** additionally teaches a method wherein the change is a modified data file being written in the writable area, such that the modified data file replaces the contents of a given data file stored in the writable area (see Figure 4; see also col. 4, lines 31-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to handle changes made to the data files stored on the writable area of a WORM as claimed, since this technique would be capable of managing files that the user desires to update on a write only media,

and also because such a capability would allow obsolete versions of the files to be recovered, since they could not be overwritten as would be possible when using conventional file systems.

13. Regarding claim 5, **Mikamo** additionally teaches a method wherein the change is an indication that a given data file stored in the writable area is to be considered deleted (see col. 7, lines 17-21).

It would have been obvious to one of ordinary skill in the art at the time of the invention to handle deletions made to the data files stored on the writable area of a WORM as claimed, since this technique would the system to indicate that a file has been deleted, a capability that is impossible using a conventional file system on a write-once medium.

14. Regarding claim 6, **Flannagan et al.** additionally teaches a method wherein the writable area is contained within an annular area of the optical disk, the annular area having an inner diameter and an outer diameter, and wherein the first end of the spiral track is adjacent the outer diameter and the remaining end of the spiral track is adjacent the inner diameter (see Figure 2; see also col. 3, lines 30-59; see also col. 5, lines 13-38).

15. Regarding claims 7 and 24, **Flannagan et al.** additionally teaches a method and WORM optical disk wherein each system sector comprises a directory identification parameter that is used to determine when to terminate the process of reading the system sector(s) (see col. 7, lines 11-25 and 50-62, teaching the use of anchor weights that point to the actual space of the directories and the use of header segments in the directory and the allocation of space for the directory).

16. Regarding claims 8 and 25, **Flannagan et al.** additionally teaches a method and WORM optical disk wherein each system sector further comprises a file identification parameter that is used to determine when to terminate the process of reading the system sector(s) (see col. 10, lines 31-50, teaching the use of a file identifier in each index entry, as well as a relative sector along with the number of consecutive sectors that a file extent occupies, thus providing the information required to determine when to terminate the reading of the system sector(s)).

17. Regarding claims 9 and 26, **Flannagan et al.** additionally teaches a method and WORM optical disk wherein each system sector includes a data block number that indicates the next available writable location for a data file (see col. 19, lines 13-17; see also col. 26, lines 7-12, disclosing the use of field 185, 'last data', which stores the track address that was last used for storing data in the data area).

Response to Arguments

18. Applicant's arguments filed 23 July 2004 have been fully considered but they are not persuasive.

19. With regard to the Applicants' argument that the **Mikamo** reference fails to teach the claimed limitation that an updated system sector is written which identifies only updated files, the examiner respectfully disagrees.

The Applicants seem to equate a track (as disclosed by the **Mikamo** reference) with a file. However, this is not the case. Figure 2 shows that each file is made up of several tracks.

The claimed invention writes updated system sector information for a specific file when that file is updated. Similarly, **Mikamo** teaches a system wherein when a new file is written, only the system sector information for that specific file is written. As disclosed in Figure 4, new information for the specific updated file is written in vacant region 2a of directory section 2. This information includes an address for track 3a, where the system stores the addresses for each track which makes up the new file.

The Applicants seem to interpret the information stored in track 3a (and illustrated in Figure 3B) as the entire system sector, wherein each track pointer is a pointer to old and new files. However, as illustrated in Figure 2, this clearly is not the case. Figure 3B illustrates pointers to individual disk tracks making up the new file; some of the tracks are old (unchanged), while some are new.

The specification at col. 4, lines 15-52, as well as Figure 4 details how system sector information concerning only newly updated files is written to the disk.

20. In response to the Applicants' argument that the **Mikamo** reference fails to teach that the system sector and data are written at opposite ends of the spiral track, the examiner respectfully responds that the **Flannagan et al.** reference is relied upon for this limitation (see rejections of claims 2 and 20 above in paragraphs 9 and 10). The **Mikamo** reference is relied upon only for it's teaching that only information corresponding to updated files is written to the system sector.

PTO Relocation

21. Applicant(s) should be aware that the examiner is currently scheduled to move to the new Alexandria campus in late October 2004. At that time, the examiner's telephone number will be changed to (571) 272-4119. The new Tech Center 2100 main telephone number will be (571) 272-2100.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke S. Wassum whose telephone number is 703-305-5706. The examiner can normally be reached on Monday-Friday 8:30-5:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

In addition, INFORMAL or DRAFT communications may be faxed directly to the examiner at 703-746-5658.

Customer Service for Tech Center 2100 can be reached during regular business hours at (703) 306-5631, or fax (703) 746-7240.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Luke S. Wassum
Art Unit 2177

lsw
7 September 2004

JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100